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MISSION READINESS SYSTEM DESCRIPTION

This document describes the approach Ames Laboratory uses to ensure Mission Readiness. Mission Readiness is a process to rank the facilities and infrastructure of a site as to their ability to support that site's scientific mission. The Mission Readiness System was developed by the Office of Science Chief Operations Officer (COO) and the COO's of the 10 Office of Science laboratories. Ames Laboratory has created the Mission Readiness Leadership Team to facilitate the Mission Readiness process. Team members are:

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1.0 APPROVAL RECORD

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- Approved by: Deputy Director (Tom Lograsso)
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The official approval record for this document is maintained by Training & Documents, 105 TASF.

2.0 REVISION/REVIEW INFORMATION

The Chief Operations Officer will formally review this document at least every three years. The revision description for this document is available from and maintained by the author.

3.0 PURPOSE, SCOPE AND INTRODUCTION

The Vision of Ames Laboratory is as follows:
Ames Laboratory will lead the interdisciplinary science of accelerating the design, discovery, and fundamental understanding of advanced energy and chemical conversion materials through technical innovation and excellence in safety, operations, quality, and diversity.

The Mission of Ames Laboratory is as follows:
Ames Laboratory creates materials, inspires minds to solve problems, and addresses global challenges.

The vision and mission statements serve to communicate to the staff and our stakeholders the scientific direction of the Laboratory. It is the responsibility of the Executive Council, primarily through the Office of the Chief Research Officer (CRO) to align the scientific activities to the

DOE Strategic Plan. Constant review of DOE's Strategic Plan and the Laboratory's research activities allow the Laboratory to quickly respond to the needs of the nation and the world. The scientific focus guides the Ames Laboratory's Lab Plan, proposals for funding, and allocation of resources, including seed funding.

Ames Laboratory's Lab Plan

With input from both internal and external stakeholders, the Executive Council annually updates the Lab Plan. This plan clearly defines how the Ames Laboratory mission will be implemented in the upcoming 5-10 years. The plan is reviewed with the Office of Science with comments incorporated to finalize the plan. The plan describes the Laboratory's strengths, core competencies, proposed initiatives and resource needs. It also includes a description of the Laboratory's vision for Strategic Partnership Projects (SPP), a Ten-Year-Site-Plan (TYSP) for facilities and infrastructure, a description of human resources issues and discusses the primary costs of doing business. Once approved, the plan guides the future actions of the Laboratory and its submissions of proposals for future funding to DOE. The development of one over-arching planning document helps to ensure that Ames Laboratory staff pursues the facility and infrastructure additions and improvements needed to support the mission of the Laboratory.

The Laboratory performs an annual formal process to facilitate facility planning but also utilizes a number of on-going processes that have effective results. Annually the Mission Readiness Leadership Team interviews the Executive Council, division, institute and program directors and department managers to gather input on research directions and the related infrastructure needs. This process is scheduled to coincide with and provide input for the TYSP. Other types of input for the TYSP include the condition assessment surveys, safety walk-throughs, normal project planning with Facilities and Engineering (FES) staff, staff input to "Fix-It", and observations while walking around.

4.0 ROLES AND RESPONSIBILITIES

4.1. Executive Council

- Final decision authority for content of Annual Lab Plan
- Provides final ranking of facility projects for TYSP

4.2. Mission Readiness Leadership Team

- Coordinate the Mission Readiness Process for the Laboratory
- Conduct annual interviews with management level staff and provide recommendations for facilities projects to the Executive Council
- Develop TYSP

4.3. Risk Ranking Team

- Review proposed projects against pre-approved criteria to provide logical ranking of projects
- Communicate results to the Executive Council for use in determining resource allocation priorities

4.4. Division, Institute, and Program Directors

- Coordinate input for facilities planning for their group
- Work with Mission Readiness Leadership Team to translate their mission objectives into facilities needs for the TYSP

4.5. Managers

- Coordinate input for facilities planning for their group
- Work with Mission Readiness Leadership Team to translate operational requirements into facilities needs for the TYSP

4.6. Staff

- Report facility and maintenance needs to supervisors or FES
- Provide ideas to their line management for facility improvements that support accomplishment of mission objectives

5.0 MISSION FUNDING

5.1. DOE Funding

The Ames Laboratory is operated by Iowa State University (ISU) for the Department of Energy (DOE) in the Government-Owned Contractor-Operated (GOCO) model. AMES is a DOE Office of Science research facility and receives funding from the DOE Office of Science through the annual Field Work Proposal (FWP) process. In recent years the Laboratory has received support from the Office of Energy Efficiency and Renewable Energy (EERE) which focuses on critical materials needed by the Nation for energy security. On an annual basis, the Laboratory submits documents to the DOE that convey the accomplishments of the past year, goals for the coming year and the resources requested to accomplish those goals. The Laboratory also submits out-of-cycle proposals that respond to calls for support from the DOE. The proposals align with the Annual Lab Plan that has been approved by DOE.

5.2. Strategic Partnership Projects (SPP)

Through the DOE-approved SPP program, the Ames Laboratory is able to make its highly specialized or unique expertise and capabilities available to support the missions of other Federal agencies and non-Federal customers on a fully reimbursable basis. AMES utilizes this avenue of funding when the proposed scientific and technical work is aligned with the Laboratory's mission and when such use results in improved capabilities.

5.3. Indirect Funding

In accordance with the Cost Accounting Standards the Laboratory funds its indirect support functions through the collection of overhead from the research funding. All indirect budgets are reviewed by the Laboratory Director for alignment with the scientific mission. Indirect support activities are designed to allow a comparable level of support and a consistent application of policies and procedures to all activities in the Laboratory.

6.0 COMMUNICATION

Communication plays a vital role in the Mission Readiness process. The Executive Council and Senior Management set the direction of the Laboratory after receiving input from DOE program offices. Formal statements like the vision and mission set the tone and policies, procedures and plans help to communicate the expectations for the Laboratory. The Mission Readiness Leadership Team interviews Senior Management to understand research goals and the corresponding facilities' needs. This input is used to help determine the gaps that exist in the facility and the investments needed to support the mission of DOE. These gaps are communicated to the Executive Council, Senior Management, and DOE Program and Site

Offices via the TYSP contained in the Annual Lab Plan. Feedback from DOE, the Site Office and staff is important when making plan adjustments that are supported by all.

An important part of the communication process is staff input. Given our compact size, significant communication occurs as FES staff and custodians move throughout the facility. There are also two email addresses, fixit@ameslab.gov and cleanit@ameslab.gov, that give staff a more formal process to communicate needs. Program directors and managers also utilize staff input to prepare for their meetings with the Mission Readiness Leadership Team.

7.0 ASSURANCE

As part of the DOE National Laboratory System, AMES benefits from a well-defined Contractor Assurance System (CAS). The CAS is designed to ensure mission objectives are met; workers, the public, and the environment are protected; operational, facility, business operations are effectively run; and M&O contract requirements are implemented. The CAS benefits from the partnership between AMES, ISU and the Ames Site Office (AMSO).

The CAS, as required by the Contract between ISU and DOE, must be verifiable through the use of audits, peer reviews, independent assessments, external certification and metrics. Assurance activities should identify any negative performance/compliance trends before they become significant. The assurance process must include appropriate and timely communications between AMES, ISU and AMSO.

The mission readiness process is an integral part of the Laboratory's CAS. It provides a formal planning process to assure laboratory facilities support the mission assigned to AMES, provides for feedback from customers and staff as to the condition of the facility, and provides for a peer review of one component of Laboratory operations.

8.0 MISSION READINESS PROCESS

Ames Laboratory management and FES are committed to being good stewards of the assets entrusted to AMES under the Contract. AMES' three primary research facilities were constructed between 50 and 60 years ago. A new facility to house sensitive instruments was completed in CY2015. The facility will greatly enhance the Laboratory's ability to fulfill its mission goals by improving characterization capabilities and by freeing up space in the older research buildings that can be renovated to meet current and future needs. It is important that Laboratory management make the best use of its maintenance and GPP funding to prepare the facilities to support the mission of the Laboratory. Even though all buildings are well maintained, there are activities that 50-60 year old buildings cannot support. AMES fully supports the Office of Science's SLI initiative as a tool to improve research capability.

AMES' Mission Readiness Leadership Team determines the mission requirements for all of its facilities and performs an assessment of the condition of the facilities and associated infrastructure required to support the Laboratory's core capabilities. As a member of the Mission Readiness Leadership Team, the Assistant Director for Strategic Planning (ADSP) helps translate mission requirements to facility needs while determining where gaps exist. The ADSP reviews requests to determine which are relevant to current mission needs and guides Laboratory leadership to support projects that will provide the most benefit to the mission. Once facility projects are identified for support, the Prioritization Team reviews each project against a list of criteria to prioritize the new projects and align them with projects already in the queue.

Once the project prioritization is complete the list of prioritized projects goes to Executive Council for a final review and possible management adjustment. The final list of projects is incorporated into the Annual Lab Plan and the annual Work Authorization System request where funding sources for projects are identified. In addition, each summer the Facilities & Engineering Services Group prepares its budget request for the coming year which includes a list of indirect funded maintenance projects needed to keep the facility in good condition and to reduce deferred maintenance.

The mission readiness process is made up of different elements that work together to provide facilities and infrastructure that meet the needs of research efforts and includes plans for meeting future needs. These efforts address both the capability and the condition of the facilities that are required to meet the mission need. The major components of this process are described below:

8.1. Condition Assessment Survey

The Condition Assessment Survey is a periodic inspection of the facilities and infrastructure conducted to identify deficiencies. It is performed by FES staff, managers, and division and program directors most familiar with the facility and its core capability requirements. The inspection is performed on a three-year cycle so approximately one-third of the facility is reviewed each year. Deficiencies are identified, categorized and the data is entered into the condition assessment database. This information is used to assess needs and generate maintenance and repair projects. Any deficiencies that are corrected are removed from the database. The database is also used as a source of data for reporting deferred maintenance into the FIMS database.

8.2. Safety Walk-through Programs

All Ames Laboratory space is inspected for safety and other issues throughout the year. The Program/Department Walk-Through Procedure provides an opportunity for the program and departmental staff to examine their spaces for safety and mission issues. In addition, the Laboratory instituted the Independent Walk-Through Procedure to address safety, property, and general oversight. This inspection team always includes at least one member of Executive Council. As a result, Executive Council personnel observe 100% of lab space each year providing them with additional knowledge of the facilities. These walk-throughs also help identify facility needs.

8.3. Topical Assessments and Reviews

DOE assessments and reviews are performed on a variety of topics each year. These assessments bring to light areas in which improvement is needed to meet requirements of DOE directives or code compliance. The results of these assessments help identify facility and operational needs. Typically, members of the Executive Council, often including the Laboratory Director, participate in the closeout meetings.

8.4. Maintenance Program

The maintenance program provides the planning and performance of cost effective maintenance, upkeep, and repair of DOE property. Effective execution of the maintenance program results in a facility that remains in good condition, is reliable, provides a good working environment, operates efficiently, and is able to perform its designed purpose. The program also provides a feedback loop used to identify facility needs through staff awareness of repair trends, equipment breakdowns, and conditions observed in preventive maintenance.

8.5. Annual Mission Readiness Interviews

The Mission Readiness Leadership Team conducts annual interviews with key management personnel. The Mission Readiness Leadership Team includes the Assistant Director for Scientific Planning, the COO, and the Manager of FES. Comprising the team of both scientific and facility personnel facilitates the inclusion of both parties' needs in future planning and promotes greater alignment between the mission and facility plans. A Mission Readiness Director/Manager Survey Form (Form 40000.003) is used to help managers assess their facility needs and to facilitate the discussions. Meetings are held with the Executive Council, division, institute and program directors and their key staff members, and department managers. Interviews solicit each manager's assessment of current gaps in facility capability. Discussions also address the future facility and infrastructure needs that the programs or departments anticipate based on changing research initiatives, new instrumentation or equipment, or changing staffing levels. Division, institute, and program directors or department managers can propose specific facility projects through the Mission Readiness Renovation/New Facility User Request (Form 40000.002). These interviews provide feedback loops which communicate results of the planning process back to management staff. The results obtained are a primary input for the mission readiness gap analysis.

8.6. Preparation of the Annual Lab Plan

The preparation of the Annual Lab Plan involves several steps that work together to align the facility and infrastructure planning with the mission. The first step is to identify the gaps between facility capability and mission requirements and develop projects or strategies that will address those gaps. The Mission Readiness Leadership Team works with FES staff and the Executive Council in this effort. FES generates an activity data sheet with a more detailed scope and budget for the projects. Projects are prioritized in accordance with the Facility and Infrastructure Project Prioritization Plan (Plan 46300.010). These priorities are reflected in the plan and in the IFI Budget Data Sheet. This preparation is not a linear, compartmentalized process but rather a collaborative process with Executive Council, Mission Readiness Leadership Team, and operations staff who review and adjust these plans to achieve the best alignment.

8.7. Field Budget Process

Prioritized projects are incorporated into the Field Budget Submission in accordance with DOE Guidance and Budget Office procedures. The budget plan is summarized in the IFI Budget Data Sheet submitted to DOE in the Field Budget Submission.

8.8. Maintenance and General Services (M&GS) Budget Process

Overall maintenance and repair activities are managed through the M&GS budget process. This process addresses core, recurring activities, such as preventive and corrective maintenance, as well as individual expensed projects. Expensed projects are primarily maintenance and repair projects needed to keep the Laboratory infrastructure in good operating condition. They are typically much smaller than capital improvement projects and are approved and executed within a single fiscal year. They are prioritized and approved as part of the overhead budget process.

Facilities & Engineering Services develop the descriptions and budgets for projects. Projects are identified through a variety of sources such as the results of Condition Assessment Surveys, safety walk-throughs, annual mission readiness meetings with management staff, FES engineers' knowledge of the facilities, requests from program

managers, occupant's needs, input from craft and custodial personnel, changing codes and requirements, DOE reviews and assessments and changing occupancy.

These projects are incorporated into the M&GS overhead Budget Call by FES. This budget request lists all of the facility and infrastructure activities. This includes the core activities that re-occur every year as well as new project activities. These projects are prioritized and listed in order based on the judgment of the FES Manager. Projects requested for funding in the coming year are listed as well as a backlog of projects slated for future years' funding. These requests are submitted in the overhead budget submission the summer prior to the coming fiscal year.

Overhead budget submissions are reviewed and processed by the Budget Office and forwarded to Lab management for review. At the beginning of the fiscal year, the Laboratory Director, COO, FES Manager, and Budget Officer meet to review, adjust and approve budget requests. The M&GS budget and each of the projects in it are reviewed and discussed. Prioritization of the projects is discussed and adjusted as needed. Projects are then approved as part of the budget for the fiscal year and executed.

Out of cycle and emergency needs are addressed through an incremental budget request process. The description, justification and budget for the project are submitted on an Incremental Budget Request (Form 58100.002). The budget impact of the project is evaluated by the Budget Office. The COO and Laboratory Director assess the need and the budget impact and decide whether or not to proceed with the project.

8.9. Plan Execution

When GPP funding is obtained and the overhead budgets for M&GS and reclamation/renovation are approved the respective facility and infrastructure plans are executed.

GPP projects require formal construction directive approval from AMSO. Requests for directive are prepared and submitted for AMSO review and approval. Once directive approval is obtained, service order requisitions are prepared which initiate the internal budget authorizing and tracking procedures. Once these procedures are completed, the project is executed. Upon completion the project is closed out. The Condition Assessment Survey database is updated with respect to any deficiencies eliminated by the project.

M&GS budgets also go through the service order requisition process for internal authorization and tracking in different functional categories such as preventive maintenance, corrective maintenance and general maintenance. Under these general categories, individual tasks are executed such as preventive maintenance procedures, corrective maintenance work orders, and expensed projects. The Condition Assessment Survey database is updated with respect to any deficiencies eliminated by the project. Out of cycle and emergency needs are addressed by an incremental budget request to authorize additional work.

8.10. Self-Assessment and Reporting

The Mission Readiness process is a best practice instituted by the Office of Science COO group. When the process was first established a Peer Review was sponsored by

the SC-COO group complete with a final report and a list of opportunities for improvement. The OFIs are documented in the Laboratory's Issues Management System. The Mission Readiness leadership team meets annually to discuss the process and to look for improvements that ultimately get reflected in this Plan every three years. Annually, Laboratory management reports in the Performance Evaluation and Measurement Plan, required by the contract between ISU and DOE, the results of assessments, oversight activities and efforts on corrective actions. Feedback from the Annual Lab Plan process gives us indications as to the effectiveness of our planning process. Other outputs of these activities include the FIMS database and quarterly maintenance reports to the Office of Science. Measures include such items as deferred maintenance, maintenance expenditures, asset condition index, maintenance investment index and asset utilization index.